<u>What Is Claimed Is</u>:

1. A method of annunciating a patient's medical data levels using a medical data level monitoring device comprising the steps of:

storing medical data levels with the corresponding dates and times of day the respective medical data levels were taken;

calculating an average medical data level from at least a first medical data level and a second medical data level selected from the stored medical data levels;

annunciating said average medical data level;

receiving a first user input to annunciate said first medical data level;

annunciating said first medical data level;

receiving a second user input to annunciate said second medical data level; and

annunciating said second medical data level.

2. A method as claimed in claim 1, wherein each of the three said annunciating steps for annunciating said average medical data level, said first medical data level and said second medical data level, respectively, can be performed by one of displaying on a display device, and generating an audible sound via a speaker.

3. A method as claimed in claim 1, wherein the medical data levels are blood glucose levels and the medical data level monitoring device is a blood glucose meter.

4. A method as claimed in claim 1, further comprising the steps of:

receiving a third user input to annunciate a value; and

annunciating said average medical data level.

5. A method as claimed in claim 1, wherein the average medical data level calculation uses n of said stored medical data levels, where n is an integer greater than 2 and said n stored medical data levels comprise said first medical data level and said second medical data level.

6. A method as claimed in claim 5, further comprising the step of annunciating a variability indicator that indicates the variability between said n stored medical data levels.

7.   A method as claimed in claim 6, wherein said variability indicator is at least one of a scalar value, and a statistical parameter selected from the group consisting of a standard deviation and a coefficient of variance.

8.   A method as claimed in claim 5, wherein said n stored medical data levels are considered constituent values of the average medical data level, and further comprising the steps of:

        receiving another user input to annunciate the next medical data level among said n stored medical data levels after said first medical data level and said second medical data level;

        annunciating the next medical data level; and

        repeating the receiving step for receiving another user input to annunciate the next medical data level among the n medical data levels, and annunciating the next medical data level until each of said constituent values have been annunciated.

9.   A method as claimed in claim 8, wherein said repeating step comprises the step of annunciating the average medical data level after the last medical data level among said constituent values has been annunciated.

10.   A method as claimed in claim 5, wherein said average medical data level and said constituent values are displayed on a display screen, the display screen comprising a first area for displaying one of the average medical data level and said constituent values, and a second area configured to have n indicators corresponding to respective ones of said n stored medical data levels.

11.   A method as claimed in claim 10, further comprising the step of displaying each of said n indicators as nonflashing items when said first area is displaying said average medical data level, and flashing the corresponding one of said n indicators when its corresponding n medical data level is being displayed as one of the constituent values.

12.   A method as claimed in claim 10, wherein said display screen comprises a third area for displaying a time of day and a date, and further comprising the step of displaying the time of day and date stored with a corresponding one of said n stored medical data levels in said third area when it is being displayed as a constituent value in said first area.

13.   A method as claimed in claim 1, wherein said calculating step comprises the step of selecting the stored medical data levels used to determine said average medical data level based on the date and time of day the stored medical data levels were taken.

14.   A method as claimed in claim 13, wherein said calculating step further comprises the step of defining a time period during a day when the average medical data level is desired for that time period on each of a selected number of days.

15.   A method as claimed in claim 14, wherein said selected number of days is three.

16.   A method as claimed in claim 14, wherein said calculating step further comprises the steps of:

receiving a user input requesting an average medical data level of said time period for a selected number of days beginning with the current day;

determining if said time period has been entered or passed on said current day;

using a reading of an medical data level taken during the time period for said current day when determining said average medical data level if said time period has been entered or has passed for the current day; and

selecting a stored medical data level taken on the previous day when determining said average medical data level if said time period has yet not been entered or passed for the current day.

17.   A method as claimed in claim 16, wherein said using step further comprises the step of selecting one of the earliest and the most recent of a plurality of readings taken on said current day during said time period based on their respective times of day.

18.   A method as claimed in claim 16, wherein said selecting step further comprises the step of selecting one of the earliest and the most recent of a plurality of readings taken on said previous day during said time period based on their respective times of day.

19.   A method as claimed in claim 16, wherein said using step further comprises the step of using a stored medical data level from the previous day if no valid medical data levels are available from said time period for the current day, and said selecting step further comprises the

step of using a stored medical data level from the day before said previous day if no valid medical data levels are available from said time period for the previous day.

20. A method as claimed in claim 16, wherein said calculating step further comprises the step of using stored medical data levels from as many as a selected maximum number of previous days if no valid medical data levels are available for said current day.

21. A method as claimed in claim 20, wherein said selected maximum number of days is five.

22. An apparatus for patient condition monitoring comprising:

a reader for measuring a selected medical data level for said patient;

a memory device for storing a plurality of the medical data levels along with their respective dates and time of day they were taken;

an annunciator;

a user input device; and

a processing device connected to said reader, said memory device, said annunciator and said user input device and programmable to calculate an average medical data level from at least a first medical data level and a second medical data level selected from the stored medical data levels in said memory device, to annunciate the average medical data level via said annunciator, to receive a first user input from said user input device to annunciate the first medical data level, to annunciate the first medical data level in response to said first user input, to receive a second user input from said user input device to annunciate the second medical data level, and to annunciate the second medical data level in response to said second user input.

23. An apparatus as claimed in claim 22, wherein said annunciator is at least one of a display device and a speaker, and said processing device is operable to annunciate by one of displaying on said display device, and generating an audible sound via said speaker.

24. An apparatus as claimed in claim 22, wherein the medical data levels are blood glucose levels and the apparatus is a blood glucose meter.

25. An apparatus as claimed in claim 22, wherein said processing device is further programmable to receive a third user input via said user input device to annunciate a value, and to annunciate the average medical data level.

26. An apparatus as claimed in claim 22, wherein said processing device is programmable to use n of the stored medical data levels to calculate the average medical data level, where n is an integer greater than 2 and the n stored medical data levels comprise said first medical data level and said second medical data level.

27. An apparatus as claimed in claim 26, wherein said processing device is programmable to determine and annunciate a variability indicator via said annunciator that indicates the variability between the n stored medical data levels.

28. An apparatus as claimed in claim 27, wherein the variability indicator is at least one of a scalar value, and a statistical parameter selected from the group consisting of a standard deviation and a coefficient of variance.

29. An apparatus as claimed in claim 26, wherein the n stored medical data levels are considered constituent values of the average medical data level, and said processing device is further programmable to receive another user input via said user input device to annunciate the next medical data level among the n medical data levels after said first medical data level and said second medical data level, to annunciate the next medical data level in response to said another user input, to repeat the operations of receiving another user input to annunciate the next medical data level among the n medical data levels and annunciating the next medical data level until each of the constituent values has been annunciated via the annunciator.

30. An apparatus as claimed in claim 29, wherein said processing device is further programmable to annunciate the average medical data level after the last medical data level among the constituent values has been annunciated.

31. An apparatus as claimed in claim 26, wherein said annunciator is a display screen and the average medical data level and the constituent values are displayed on said display screen, said display screen comprising a first area for displaying one of the average medical data level and the

constituent values, and a second area configured to have n indicators corresponding to respective ones of the n medical data levels.

32. An apparatus as claimed in claim 31, wherein said processing device is programmable to display each of said n indicators as nonflashing items when said first area is displaying the average medical data level, and flash the corresponding one of said n indicators when its corresponding n medical data level is being displayed as one of the constituent values.

33. An apparatus as claimed in claim 31, wherein said display screen comprises a third area for displaying a time of day and a date, said processing device being further programmable to display the time of day and date stored with a corresponding one of the n stored medical data levels in said third area when it is being displayed as a constituent value in said first area.

34. An apparatus as claimed in claim 22, wherein said processing device is programmable to select the stored medical data levels used to determine said average medical data level based on the date and time of day the stored medical data levels were taken.

35. An apparatus as claimed in claim 34, wherein said processing device is operable to generate prompts via said annunciator to allow a user to define via said user input device a time period during a day when the average medical data level is desired for that time period on each of a selected number of days.

36. An apparatus as claimed in claim 35, wherein said selected number of days is three.

37. An apparatus as claimed in claim 35, wherein said processing device is further programmable to receive a user input requesting an average medical data level of said time period for a selected number of days beginning with the current day, to determine if said time period has been entered or passed on said current day, to use a reading of an medical data level taken during the time period for said current day when determining the average medical data level if said time period has been entered or has passed for the current day, and to select a stored medical data level taken on the previous day when determining the average medical data level if said time period has yet not been entered or passed for the current day.

38. An apparatus as claimed in claim 37, wherein said processing device is programmable to select one of the earliest and the most recent of a plurality of readings taken on said current day during said time period based on their respective times of day.

39. An apparatus as claimed in claim 37, wherein said processing device is programmable to select one of the earliest and the most recent of a plurality of readings taken on said previous day during said time period based on their respective times of day.

40. An apparatus as claimed in claim 37, wherein said processing device is programmable to use a stored medical data level from the previous day if no valid medical data levels are available from said time period for the current day, and, when selecting a stored medical data level taken on the previous day, to use a stored medical data level from the day before said previous day if no valid medical data levels are available from said time period for the previous day.

41. An apparatus as claimed in claim 37, wherein said processing device is programmable to use stored medical data levels from as many as a selected maximum number of previous ago if no valid medical data levels are available for said current day.

42. An apparatus as claimed in claim 41, wherein said selected maximum number of days is five.

43. An apparatus as claimed in claim 22, wherein said user input device comprises forward and backward arrow keys for navigation forward and backward, respectively, among the annunciated said constituent values.

44. A method of displaying blood glucose levels using a blood glucose meter comprising the steps of:
    storing blood glucose levels with the corresponding dates and times of day the respective blood glucose levels were taken;
    calculating an average blood glucose level from at least a three of the stored blood glucose levels as the constituent values;
    displaying the average blood glucose level using a display device of said blood glucose meter;

receiving a first user input to display a first one of the constituent values;

displaying the first one of the constituent values in response to the first user input;

receiving a second user input to display a second one of the constituent values; and

displaying the second one of the constituent values in response to the second user input.

45.   A method as claimed in claim 44, further comprising the steps of:

receiving a third user input to display the third one of the constituent values;

displaying the third one of the constituent values in response to the third user input;

receiving another user input to display a value; and

displaying the average blood glucose level again.

46.   A method as claimed in claim 45, wherein said blood glucose meter comprises forward and backward arrow keys for navigation forward and backward, respectively, among the different displayed constituent values.

47.   A method as claimed in claim 44, further comprising the step of displaying a variability indicator that indicates the variability between said constituent blood glucose levels.

48.   A method as claimed in claim 47, wherein the variability indicator is at least one of a scalar value, and a statistical parameter selected from the group consisting of a standard deviation and a coefficient of variance.

49.   A method as claimed in claim 44, wherein the display screen comprises a first area for displaying one of the average blood glucose level and the constituent values, and a second area configured to have three indicators corresponding to respective ones of the three constituent values.

50.   A method as claimed in claim 49, further comprising the step of displaying each of said three indicators as nonflashing items when said first area is displaying the average blood glucose level, and flashing the corresponding one of said three indicators when its corresponding constituent value is being displayed.

51.   A method as claimed in claim 44, wherein said calculating step comprises the step of selecting the stored blood glucose levels used to determine said average blood glucose level based on the date and time of day the stored blood glucose levels were taken.

52.   A method as claimed in claim 44, wherein said calculating step further comprises the step of defining a time period during a day when the average blood glucose level is desired for that time period on each of a selected number of days.

53.   A method as claimed in claim 52, wherein said selected number of days is three.

54.   A method as claimed in claim 52, wherein said calculating step further comprises the steps of:

        receiving a user input requesting an average blood glucose level of said time period for a selected number of days beginning with the current day;

        determining if said time period has been entered or passed on said current day;

        using a reading of an blood glucose level taken during the time period for said current day when determining the average blood glucose level if said time period has been entered or has passed for the current day; and

        selecting a stored blood glucose level taken on the previous day when determining the average blood glucose level if said time period has yet not been entered or passed for the current day.

55.   A method as claimed in claim 54, wherein said using step further comprises the step of selecting one of the earliest and the most recent of a plurality of readings taken on said current day during said time period based on their respective times of day.

56.   A method as claimed in claim 54, wherein said selecting step further comprises the step of selecting one of the earliest and the most recent of a plurality of readings taken on said previous day during said time period based on their respective times of day.

57.   A method as claimed in claim 54, wherein said using step further comprises the step of using a stored blood glucose level from the previous day if no valid blood glucose levels are available from said time period for the current day, and said selecting step further comprises the

step of using a stored blood glucose level from the day before said previous day if no valid blood glucose levels are available from said time period for the previous day.

58.   A method as claimed in claim 54, wherein said calculating step further comprises the step of using stored blood glucose levels from as many as a selected maximum number of previous days if no valid blood glucose levels are available for said current day.

59.   A method as claimed in claim 58, wherein said selected maximum number of days is five.

60.   A method of displaying blood glucose levels using a blood glucose meter comprising the steps of:

storing blood glucose levels with the corresponding dates and times of day the respective blood glucose levels were taken;

calculating an average blood glucose level from at least a three of the stored blood glucose levels as the constituent values;

displaying the average blood glucose level using a display device of said blood glucose meter; and

displaying the constituent values at least one of substantially simultaneously with said average blood glucose level, and after the average blood glucose level using sequential display screens for respective ones of the average blood glucose level and the constituent values that can be generated in a round robin manner.

61.   A method as claimed in claim 60, further comprising the step of displaying a variability indicator that indicates the variability between said constituent blood glucose levels.

62.   A method as claimed in claim 61, wherein the variability indicator is at least one of a scalar value, and a statistical parameter selected from the group consisting of a standard deviation and a coefficient of variance.

63.   A method as claimed in claim 60, wherein said calculating step comprises the step of selecting the stored blood glucose levels used to determine said average blood glucose level based on the date and time of day the stored blood glucose levels were taken.

64.   A method as claimed in claim 63, wherein said calculating step further comprises the step of defining a time period during a day when the average blood glucose level is desired for that time period on each of a selected number of days.

65.   A method as claimed in claim 64, wherein said selected number of days is three.

66.   A method as claimed in claim 64, wherein said calculating step further comprises the steps of:

receiving a user input requesting an average blood glucose level of said time period for a selected number of days beginning with the current day;

determining if said time period has been entered or passed on said current day;

using a reading of an blood glucose level taken during the time period for said current day when determining the average blood glucose level if said time period has been entered or has passed for the current day; and

selecting a stored blood glucose level taken on the previous day when determining the average blood glucose level if said time period has yet not been entered or passed for the current day.

67.   A method as claimed in claim 66, wherein said using step further comprises the step of selecting one of the earliest and the most recent of a plurality of readings taken on said current day during said time period based on their respective times of day.

68.   A method as claimed in claim 66, wherein said selecting step further comprises the step of selecting one of the earliest and the most recent of a plurality of readings taken on said previous day during said time period based on their respective times of day.

69.   A method as claimed in claim 66, wherein said using step further comprises the step of using a stored blood glucose level from the previous day if no valid blood glucose levels are available from said time period for the current day, and said selecting step further comprises the step of using a stored blood glucose level from the day before said previous day if no valid blood glucose levels are available from said time period for the previous day.

70.   A method as claimed in claim 64, further comprising the steps of:

defining n time periods during a day the average blood glucose level is desired for that time period on each of a selected number of days where n is an integer selected from the range n = 1, 2, ...8; and

repeating said calculating step, said displaying step for displaying the average blood glucose level, and said displaying step for displaying the constituent values for each of said n time periods.

71.   A method as claimed in claim 64, wherein said n time periods can comprise any of a breakfast mealtime, a lunch mealtime, a dinner mealtime, a nighttime snack mealtime, a post-meal average time, and nighttime.